DRAFT
SITE ASSESSMENT REPORT
FOR
THE PLEASANT STREET SITE
DETROIT, WAYNE COUNTY, MICHIGAN

Prepared for:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region V
Emergency Response Branch
9311 Groh Road
Grosse Ile, Michigan 48138

Prepared by:

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LIST OF ABBREVIATIONS AND ACRONYMS

AST	Aboveground storage tank
CFR	*Code of Federal Regulations*
DFD	Detroit Fire Department
DWSD	Detroit Water and Sewerage Department
H_2S	Hydrogen Sulfide
Mg/L	Milligrams/Liter
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
OSC	On-Scene Coordinator
pH	Corrosivity
Poly	Polyethylene
PPM	Parts Per Million
SA	Site Assessment
START	Superfund Technical Assessment and Response Team
SU	Standard Units
SVOCs	Semivolatile Organic Compounds
TCLP	Toxicity Characteristic Leaching Procedure
U.S. EPA	United States Environmental Protection Agency
VOCs	Volatile Organic Compounds
WESTON	Weston Solutions, Inc.

1. INTRODUCTION

Under Technical Direction Document number S05-0001-1003-024, the United States Environmental Protection Agency (U.S. EPA) tasked the Weston Solutions, Inc.,(WESTON®), Superfund Technical Assessment and Response Team (START) to assist the U.S. EPA On-Scene Coordinator (OSC) in performing a site assessment (SA) at the Pleasant Street Site in Detroit, Wayne County, Michigan (the Site) (**Figure 1**). Specifically, U.S. EPA requested that WESTON START assess and sample unknown containers; perform air monitoring; collect written and photographic documentation; and evaluate the potential for imminent and substantial threats to human health, human welfare, and the environment posed by the Site. On March 29 and May 10, 2010, WESTON START conducted a site assessment under the direction of OSC Partap Lall.

This SA report is organized into the following sections:

- **Introduction –** Provides a brief description of the objective and scope of SA activities;
- **Site Background –** Details the Site description and history;
- **Site Assessment Activities –** Discusses the Site reconnaissance, Site observations, and sampling activities during the SA;
- **Analytical Results –** Discusses analytical results for samples collected during the SA;
- **Threats to Human Health and the Environment –** Identifies Site-related conditions that warrant a removal action under the National Oil and Hazardous Substances Pollution Contingency Plan (NCP); and
- **Conclusions and Recommendations –** Summarizes SA findings and provides recommendations for further Site activities.

2. SITE BACKGROUND

This section discusses the Site description and history.

2.1 SITE DESCRIPTION

The Site (latitude 42.280829°North and longitude 83.142623°West) is located at 11930 Pleasant Street in Detroit, Wayne County, Michigan (**Figure 1**), and is located in a mixed residential/industrial area.

The Site consists of three main buildings, 25 exterior aboveground storage tanks (ASTs), and eight interior ASTs (**Figure 2**). The site is bordered on the south by Pleasant Street and residential properties, and on the west, north, and east by industrial sites.

2.2 SITE HISTORY

The Site is the former location of Patterson Laboratories, Inc., a chemical formulation company, and subsequently West Win, Ltd. Both companies used the site buildings for formulating commercial chemicals. The Detroit Fire Department (DFD) stated that the Site buildings have been vacant for approximately 2 years.

On March 26, 2010, the National Response Center received a report from an anonymous caller who stated that liquid was leaking from one of the Site buildings, and that a "rotten egg" odor was present in the vicinity of the Site building. The City of Detroit Water and Sewerage Department (DWSD) was called and subsequently went to the building. After determining that the source of the leaking liquid was a standing pipe inside the building, DWSD was able to plug the pipe in order to substantially stop the leak. In addition to plugging the pipe, the Water Department also encountered hydrogen sulfide (H_2S) readings of 1 to 2 parts per million (ppm) outside of the building.

The DFD subsequently requested assistance from U.S. EPA to properly assess the hazards related to the unsecured buildings and potential chemical containers at the Site.

3. SITE ASSESSMENT ACTIVITIES

The SA was conducted to evaluate potential threats to human health and the environment posed by the Site and the need for further response actions. During the SA, radiation screening was performed within all on-site buildings using a Ludlum Micro-R radiation meter. No readings exceeded background levels. A MultiRAE multi-gas air monitor and ammonia, phosphine, and hydrogen cyanide ToxiRAE single-gas monitors were also used to monitor the breathing zones inside all of the Site buildings. All air monitoring readings were at or below background levels, with the exception of readings of H_2S gas obtained at the standing pipe well head located inside the main facility building. H_2S readings at the well head ranged from 5 to 70 ppm. There were no readings of H_2S observed in the breathing zone throughout the main building.

The following sections discuss the Site reconnaissance, Site observations, and sampling activities conducted during the Site assessment.

3.1 SITE RECONNAISSANCE

On March 29, 2010, U.S. EPA OSC Partap Lall and WESTON START members Daniel Capone, Michael Browning, Sean Kane, and Lorie Ambrosio mobilized to the Site. After a brief safety meeting and equipment set-up, U.S. EPA and WESTON START personnel walked through the Site to perform initial air monitoring and radiation screening, develop a sampling strategy, and inventory on-site drums and small containers. During the Site reconnaissance, written and photographic documentation of current Site conditions were taken and potential environmental threats and sampling locations were noted. Appendix A provides a photographic log of Site conditions at the time of the Site reconnaissance.

On May 10, 2010, OSC Lall and WESTON STARTs Daniel Capone, Michael Browning, and Sean Kane remobilized to the site to further evaluate the contents in the Site buildings and to

collect additional samples for the purpose of further evaluating the potential environmental threats existing at the Site.

3.2 SITE OBSERVATIONS

The Site is entirely enclosed within an intact chain-link fence. However, while the fence is structurally intact, two entry point gates to the Site, one on the west side of the property and one on the south side of the property, are unlocked, and, as such, provide potential access to the property.

Building 1 is a smaller outbuilding located near the southeast portion of the Site. This building contains 27 drums and containers, ranging in size from 5 to 55 gallons, and at least 40 small containers, ranging in size from 20 ounces to 1 gallon. A number of the drums are open or have open bung holes. Evidence of leaking drums and containers is present given that floor staining was observed and areas of the building floor contain puddles of unknown liquid. Debris and general refuse are strewn throughout the building. In addition, Building 1 contains a small laboratory room that contains numerous laboratory chemicals.

Building 2 is the large main building at the Site. This building contains 30 drums, ranging in size from 5 to 55 gallons, eight ASTs, one standing pipe that was plugged by DWSD, and one area of standing water that measures approximately 20 feet by 18 feet. Areas of this building are structurally damaged and WESTON START documented one area of the building that contains a large hole in the roof.

Building 3 is a large building located directly north of Building 2. In this building, START observed a dark brown liquid draining into a floor drain of a truck well and an area, measuring approximately 10 feet by 15 feet, where standing oil is located near two pieces of heavy machinery.

The hazards summarized below were identified during Site reconnaissance activities.

- Buildings 1 and 2 contained uncontrolled, unlabeled, unidentified waste in drums, totes, and small containers of various sizes.
- Buildings 1 and 2 contained uncontrolled, unlabeled waste in open and/or leaking containers.
- Waste material was present on the floors of Buildings 1, 2, and 3.
- Evidence of a liquid waste material draining into a floor drain in Building 2 and leaking through cracks of the Building 2 foundation and onto surface concrete was observed.
- Poor housekeeping was observed, including debris and general refuse throughout the Site buildings and offices.
- Site access is unrestricted, even though the Site is completely fenced. Evidence of unauthorized access (i.e., trash dumping and vandalism) was observed.
- Vulnerable county drains and residential areas border the Site to the west and south.
- The presence of at-risk human populations, including children and the elderly, are likely located within close proximity to the Site.

3.3 SAMPLING ACTIVITIES

Based on the Site observations taken on March 29 and May 10, 2010, the OSC directed WESTON START to collect the following samples from Building 1: two liquid samples from two 55-gallon drums (PSS-WL03-032910 and PSS-WL04-032910), two liquid samples from two small containers (PSS-WL10-051010 and PSS-WL11-051010), and one floor sample (PSS-WS01-032910). From Building 2, the OSC directed WESTON START to collect the following samples: one liquid sample from one 55-gallon drum (PSS-WL05-032910), two liquid samples from two small container (PSS-WL08-051010 and PSS-WL09-051010), two water samples (PSS-WL01-032910 and PSS-WL02-0032910), one solid sample from a 50-pound bag (PSS-WS03-051010), one liquid sample from an exterior AST (PSS-WL07-051010), one solid sample from an exterior AST (PSS-WS04-051010), and one potential asbestos sample (PSS-WS02-03291010). The OSC also directed WESTON START to collect one liquid sample from the truck well located in Building 3 (PSS-WL06-051010). Level B personnel protective equipment was donned by START during the collection of the drum samples. Drums were

sampled using disposable drum thieves and the waste sample from Building 1 was sampled using a disposable plastic scoop. All drum samples were placed into 32-ounce jars or 4-ounce jars provided by the laboratory. The START sample identification numbers are as follows:

- PSS-WS01-032910 – blue sludgy solid material from an open floor trench in Building 1.
- PSS-WL01-032910 – water leaking from the plugged well pipe in Building 2 where elevated levels of H_2S were observed.
- PSS-WL02-032910 – water from a pool of standing water in Building 2 presumably from the leaking well pipe.
- PSS-WL03-032910 – liquid sample from a polyethylene (poly) 55-gallon drum in Building 1.
- PSS-WL04-032910 – liquid sample from a steel 55-gallon drum in Building 1.
- PSS-WL05-032910 – liquid sample from a poly 55-gallon drum in Building 2.
- PSS-WS02-032910 – potential asbestos containing building material from insulation wrapped around a boiler located outside Building 2.
- PSS-WL06-051010 – liquid sample from a truck well in Building 3.
- PSS-WL07-051010 – liquid sample from an exterior AST.
- PSS-WL08-051010 – liquid sample from a poly 5-gallon container in Building 2.
- PSS-WL09-051010 – liquid sample from a poly 5-gallon container in Building 2.
- PSS-WL10-051010 – liquid sample from a glass container in Building 1.
- PSS-WL11-051010 – liquid sample from a glass container in Building 1.
- PSS-WS03-051010 – solid sample from a 50-pound bag in Building 2.
- PSS-WS04-051010 – solid sample from an exterior AST.

  Note: WL – Waste Liquid, WS – Waste Solid

The samples collected on March 29, 2010 were labeled and submitted to TriMatrix Laboratories, of Grand Rapids, Michigan, while the samples collected on May 10, 2010 were labeled and submitted to RTI Laboratories, of Livonia, Michigan.

Sample PSS-WS01-032910 was analyzed for toxicity characteristic leaching procedure (TCLP), volatile organic compounds (VOCs), TCLP semivolatile organic compounds (SVOCs), TCLP metals, corrosivity, ignitibility, and polychlorinated biphenyls. Samples PSS-WL01-032910 and PSS-WL02-032910 (well pipe and standing water samples) were analyzed for VOCs, sulfides, and pH. Drum samples PSS-WL03-032910, PSS-WL04-032910, and PSS-WL05-032910 were analyzed for TCLP VOCs, TCLP SVOCs, TCLP metals, corrosivity, and ignitibility. Sample PSS-WS02-032910 was analyzed for asbestos content by Polarized Light Microscopy.

Samples PSS-WL06-051010, PSS-WL07-051010, PSS-WL09-051010, PSS-WS03-051010, and PSS-WS04-051010 were analyzed only for pH, while Samples PSS-WL10-051010 and PSS-WL11-051010 were analyzed only for Flashpoint. Sample PSS-WL08-051010 was analyzed for both pH and Flashpoint.

4. ANALYTICAL RESULTS

The analytical results for the samples are discussed below and summarized in **Tables 4-1** and **4-2**. Analytical results were compared to either Resource Conservation and Recovery Act limits for determining characteristic hazardous waste or Michigan Department of Natural Resources and the Environment Part 201 Industrial and Commercial I Direct Contact Criteria (waste solid sample only). Appendix B provides the laboratory analytical report and the data validation report. According to Title 40 of the *Code of Federal Regulations* (CFR), Part 261.2, a solid waste is considered a hazardous waste if it exhibits any of the characteristics of ignitability, corrosivity (pH), toxicity, or reactivity.

Samples PSS-WL01-032910 and PSS-WL02-032910 showed total sulfide results of 140 milligrams/liter (mg/L) and 4.9 mg/L, respectively. The total sulfides in the water samples presumably are the source of the H_2S gas readings detected at the standing well pipe inside Building 2.

Samples PSS-WL08-051010, PSS-WL10-051010, and PSS-WL11-051010 exhibit the characteristic of ignitibility (i.e., ignitable under 140°F) given that each has a flashpoint of 65°F, 60°F, and 65°F, respectively.

Samples PSS-WL09-051010 and PSS-WS03-051010 exhibit the characteristic of pH ≤2 or ≥12.5 standard units (SU) given that each has a pH of 1.9 and 13 SU, respectively.

The results for all other samples collected during the SA did not contain any contaminant levels which exceed regulatory criteria.

The potential asbestos sample collected contained less than 1 percent asbestos, however it should be noted that WESTON START did not conduct a detailed inspection of the buildings for potential asbestos containing materials.

5. THREATS TO HUMAN HEALTH AND THE ENVIRONMENT

Factors to be considered in determining the appropriateness of a potential removal action at a Site are delineated in the NCP at 40 CFR 300.415(b) (2). A summary of the factors applicable to the Site is presented below.

- **Actual or potential exposure of nearby human populations, animals, or the food chain to hazardous substances or pollutants or contaminants**

  WESTON START noted that at a distance of one to two inches from the opening of the standing pipe in Building 2 the levels of H_2S reached a level of 70 ppm. The analytical results for the liquid samples collected from the standing pipe and the pool of standing water indicated total sulfides in the water of 140 mg/L and 4.9 mg/L, respectively. Given that the analytical results for both samples contained detectable levels of total sulfides, the water originating from the standing pipe and the pool of standing water could potentially expose nearby populations or trespassers to hazardous levels of H_2S gas.

  Site access is unrestricted due to a lack of secured fencing.

  A residential neighborhood is located immediately south of the Site, and WESTON START documented evidence of trespassing during the Site assessment.

The presence of potentially hazardous and other unknown wastes poses a threat to nearby residents and trespassers due to the potential for off-site migration of contaminants and through direct contact exposure.

- **Actual or potential contamination of drinking water supplies or sensitive ecosystems**

  The presence of drums and aboveground storage tanks with no secondary containment inside buildings and on the exterior grounds at the Site could affect sensitive ecosystems if the wastes were to migrate to nearby storm sewers or drain systems.

- **Hazardous substances or pollutants or contaminants in drums, totes, containers, or other bulk storage containers that may pose a threat of release**

  WESTON START observed numerous containers of laboratory chemicals in a small room of Building 1, two of which were found to be flammable through laboratory analysis, as well as caustic and corrosive materials in Building 2. Unrestricted Site access could result in trespassers causing accidental or intentional releases of the chemicals stored within these containers, and/or chemical reactions that could result in the release of toxic gases. The close proximity of the Site to residences greatly increases potential threats to human health and environment if a release occurs.

- **Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released**

  Southeast Michigan receives a substantial amount of precipitation during the spring and summer. Weather conditions will continue to contribute to the deterioration of drums and containers on the exterior grounds of the Site, as well as to the deterioration of drums and containers located in the Site buildings, given the structurally unsound nature of some of the Site buildings. There may be friable asbestos-containing building materials within the Site buildings that may continue to deteriorate due to weather conditions, potentially causing asbestos releases.

- **Threat of fire or explosion**

  Despite the fact that all electrical power and natural gas have been shut off at the Site, the threat of fire or explosion is moderate because of unrestricted Site access and potential trespassing. A fire could produce toxic gases, irritants, acidic or caustic smoke, and contaminated fire-water runoff.

6. CONCLUSIONS AND RECOMMENDATIONS

The following sections summarize conclusions and recommendations based on Site assessment findings.

6.1 CONCLUSIONS

On March 29 and May 10, 2010, WESTON START collected two water samples, eight liquid drum/container/AST samples, one liquid waste sample (truck well), three solid waste samples, and one potential asbestos sample during the SA. Sample analytical results indicate the presence of hazardous wastes.

The hazards summarized below were identified during Site reconnaissance activities.

- Buildings 1 and 2 contained uncontrolled, unlabeled, unidentified waste in drums and/or aboveground storage tanks.
- Buildings 1 and 2 contained uncontrolled, unlabeled waste in open and leaking containers.
- Uncontrolled, unlabeled waste material was present on the floors inside the Site buildings and on exterior Site grounds.
- Uncontrolled, unlabeled waste material was observed leaking onto concrete outside of the Site grounds.
- Poor housekeeping was observed, including debris and general refuse throughout the Site buildings and offices.
- Site access is unrestricted due to unsecured fencing. Evidence of unauthorized access to the Site was observed.
- The Site is bordered on the south by a vacant lot and residential area, and on the north east, and west by industrial properties.
- The presence of at-risk human populations, including children and the elderly, is likely near the Site.

6.2 RECOMMENDATIONS

Based on the information gathered during the Site assessment and the sample analytical results, WESTON recommends the actions summarized below.

- A time-critical removal action should be performed at the Site to address the hazards identified and to mitigate imminent and substantial endangerment of human health and the environment posed by the Site.
- Access to the Site should be restricted before the time-critical removal action is conducted to limit the potential for Site-related releases and endangerment.
- All uncontrolled wastes should be removed from the Site to reduce the potential for release of hazardous materials that could result in, but not be limited to, any or all of the following impacts:
  - Potential exposure of human and animal populations and sensitive ecosystems to Site-related contaminants;
  - Potential drinking water contamination from Site-related contaminants;
  - Potential for toxic gases and acidic or caustic smoke to be produced by a fire at the Site; and
  - Potential for release of Site-related hazardous materials to the City of Detroit storm and sanitary sewer systems and Wayne County storm drains.
- The extent of contamination in the Site buildings and surrounding exterior grounds has not been fully determined. Waste material has accumulated on the floors throughout the Site buildings and on the exterior grounds. The extent of contamination at the Site should be confirmed.
- Conduct a more thorough inspection for potential asbestos containing building materials.

Restricting access to the Site and removing all uncontrolled wastes would not eliminate the potential hazards identified above because the surrounding soil and exterior grounds could contain high concentrations of Site-related contaminants. However, these actions would greatly reduce immediate Site-related hazards.

FIGURES

TABLES

APPENDIX A
PHOTOGRAPHIC DOCUMENTATION

APPENDIX B
LABORATORY ANALYTICAL REPORT AND DATA VALIDATION REPORT